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A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH
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Dear Sir:

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Bill authorizing $386,679,000 in new construction funds for projects of the USAEC has been passed by both House and Senate despite Presidential objections. Largest item in the bill (as recommended by Joint Congressional Committee on Atomic Energy) was $145,000,000 for plutonium production reactor at Hanford Plutonium Works, Washington, which could be converted to electric power production use at a later date if desired. (Further details & other business news, p. 2 this LETTER.)

Sales increase of 26% has been registered by Radiation Counter Laboratories for its fiscal year ending June 30, 1958, as compared with its fiscal 1957 year. Gross sales for the Skokie, Ill., nuclear instrumentation and data processing equipment manufacturer were $1,725,000 for the 12-months ended June 30, 1958; this compares with gross of $1,387,000 for the like 1957 period. The company also has incoming orders some 25% higher this year than last. Much of the sales stimulation has been due to new products introduced, with such new products accounting for 65% of the firm's business last year. (Other MANUFACTURERS' NEWS, p. 4 this LETTER.)

New Federal trade-mark grants are to be made for nuclear products of Olin-Mathieson Chemical Corp., and Sylvania-Corning Nuclear Corp., under applications recently published for opposition. For Olin Mathieson's Squibb division, the mark Medotopes for radiopharmaceuticals, has been published (application SN 33,994) and for Sylvania-Corning the marks Sylcor under application SN 44,131 and Sylcor with design under application SN 44,130, both for nuclear fuel elements, have been published. (Other PATENT & TRADEMARK NEWS, p. 5 this LETTER.)

Complete lists of the scientific papers to be presented at the 2nd United Nations International Conference on Peaceful Uses of Atomic Energy (Geneva, September 1-13) may be obtained free from The Chronicle of U.N. Activities, 234 W. 26th St., New York 1, N.Y. (Further details this Conference & news of other conferences, p. 5 this LETTER.)

Following the removal by USAEC of prohibitions on non-nuclear uses of uranium (this LETTER, Vol. 19, No. 2, p. 2) a variety of such uranium products is being offered by Davison Chemical Co., division of W. R. Grace & Co., from its nuclear reactor materials plant in Erwin, Tenn. Ton quantities are being offered by Davison of sodium and ammonium diuranate; uranyl nitrate in solution or crystals; uranium oxides; uranium tetrafluoride; and uranium metal. (Other PRODUCTS, PROCESSES, INSTRUMENTS, p. 4 this LETTER.)

Three firms have received USAEC contracts for preliminary design and analysis of heat exchangers and sodium generators for nuclear power plant systems using liquid sodium as a coolant. Firms receiving the contracts were Griscom-Russell Co., Masillon, Ohio; Alco Products, Inc., Schenectady, N.Y.; and Combustion Engineering, New York, N.Y. The awards followed receipt by the USAEC of some 15 proposals, after the Commission had issued formal invitation. The program is simultaneous with other Commission work on advanced sodium-cooled reactor systems. (Other CONTRACT NEWS, p. 3 this LETTER.)

ATOMIC ENERGY BUSINESS NEWS...

NEW FUNDS BEING GRANTED USAEC:- The $386,679,000 being authorized for spending on USAEC projects under bill passed by both the House and Senate includes not only the $145,000,000 item for plutonium-power reactor at Hanford (p. 1, this LETTER) but also $39,000,000 for new physical research facilities for the Commission, and $51,000,000 for a gas-cooled, graphite-moderated enriched power reactor. In all, some 57 different projects are authorized by the measure. (In opposing the dual purpose Hanford project, the President noted that the original USAEC budget request had been $193,400,000 and the Joint Congressional Committee had nearly doubled this in asking for $386,679,000. He said that the need for the increased items had not been determined.)

TREATMENT PLANT FOR RADIOACTIVE WASTES:- Detailed engineering work is being started by Fluor Corp., Ltd., Los Angeles, on a projected $300,000 calcination system for disposal of radioactive wastes at the USAEC's National Reactor Testing Station, near Idaho Falls, Idaho. The plant, under study for some months by Fluor for the USAEC, will treat highly contaminated liquids produced by spent-fuel recovery operations. The calcination process, as developed jointly by the USAEC, Phillips Petroleum Co., and Fluor Corp., concentrates the liquid wastes into a dry material that can be stored in underground vaults lined with stainless-steel.

GRANT MADE FOR NORWEGIAN RESEARCH REACTOR:- Contribution by U. S. is being made in amount of $350,000 toward cost of nuclear research reactor for Institutt for Atomenergi at Kjeller, near Oslo. The Institutt will build the reactor, a zero-power, pool-type facility fueled with natural uranium and moderated and cooled with heavy or light water; general supervision of its operation will be by the Joint Establishment for Nuclear Energy Research (JENER), the cooperative research organization set up by Holland and Norway in 1951. (This is the sixteenth grant made by the U.S. under the atoms-for-peace program, and as in previous grants, funds are made available to the USAEC for transfer to the project by the Mutual Security Agency. It is the first grant under which a U.S. firm will not supply the reactor, although some of the equipment for the reactor is expected to be bought from U.S. companies; five tons of heavy water to be used as moderator will be bought by the U.S.)

NEW BOOKS & OTHER PUBLICATIONS...

The Effects of Ionizing Radiation on Natural and Synthetic High Polymers, by Frank A. Bovey, Minnesota Mining & Man. Co. Complete and useful treatment of changes produced in high polymers by radiation. (Vol. 1 of a new series of this publisher in polymer science; edited by Herman F. Mark, Polytechnic Institute of Brooklyn.) 301 pages. ($7.50)..... Organic Syntheses With Isotopes, by Arthur Murray III and D. Lloyd Williams, Los Alamos Scientific Laboratory. A good source of chemical methods of isotopic synthesis. In two parts: Part 1 covers compounds of isotopic carbon; part II discusses organic compounds labeled with isotopes of the halogens, hydrogen, nitrogen, oxygen, phosphorous, and sulfur. Part I, 1156 pages. ($25.00); Part II, 1100 pages. ($25.00) --Interscience Publishers, Inc., 250 Fifth Ave., New York 1, N.Y.

Inspection for Disarmament, by Seymour Melman, Columbia University. An investigation of the feasibility of designing inspection systems for disarmament, particularly with regard to nuclear weapons. 291 pages. -- Columbia University Press, 2960 Broadway, New York, N.Y. ($6.00).

MANUFACTURERS' LITERATURE:- A 64 page "Bibliography on Solid Fuel Elements", assembled by Sylvania-Corning Nuclear Corp., contains some 306 references on solid fuel elements, such as fabrication and properties. Available from Stanley R. Roboff, company marketing director, at Bayside, L.I. office of Sylvania-Corning.

Technical bulletin describing the Cockcroft-Walton positive ion accelerators produced by Applied Radiation Corp., Walnut Creek, Calif., is available on request from this firm. Bulletin covers specifications and applications of the machines in nuclear research and education.

Atomlight, for June 1958, issued by New England Nuclear Corp., Boston, discusses radioautography with tritium; new products recently released by the firm; etc.

New brochure of Edgerton, Germeshausen & Grier, Inc., Boston, describes high speed photographic work and other activities of this firm which has been doing contract work for the USAEC in the firing, instrumentation, and photography of nuclear weapons tests.

ATOMIC ENERGY CONTRACT AWARDS...

FUEL CONTRACT:- Award of a nuclear fuel contract in excess of $1 million to Sylvania-Corning Nuclear Corp., has been made by Power Reactor Development Co., Detroit, non-profit organization of electrical utilities and manufacturing concerns. The contract, among the largest ever made for commercial reactor fuel elements, covers uranium core and blanket sub-assemblies for the reactor of the Enrico Fermi nuclear power plant which PRDC is erecting near Detroit. Some 100 reactor core sub-assemblies and 300 blanket sub-assemblies will be supplied by Sylvania-Corning from its recently expanded Hicksville, L.I., facilities.

COOLANT USE FOR RADIATION PROCESSING:- Feasibility of using radioactive sodium coolant of a nuclear reactor for commercial radiation processing, and of making such facilities an integrated part of a nuclear power station, will be studied by Atomics International division of North American Aviation under $76,000 USAEC contract award to the firm. The study will be made at the Hallam nuclear power facility which is being built by the Consumers' Public Power District and the USAEC. Atomics International also is constructing this reactor.

IRANIAN REACTOR:- Nuclear research reactor is to be furnished by American Machine & Foundry Co., New York, for installation at the University of Teheran, under contract recently awarded AMF by the Iranian government. The Iranian reactor will be the central instrument of the University's nuclear science center in the Teheran suburb of Amirabad. It will be of the pool-type, with a power level of 1 megawatt, and will use 20% enriched uranium alloyed with aluminum as a solid fuel.

ULTRA HIGH-LEVEL RADIATION LABORATORY:- Feasibility study of a laboratory capable of handling radiation sources more intense than any previously fabricated will be undertaken by Vitro Engineering Co., division of Vitro Corp., of America, under contract awarded the firm by Associated Universities, Inc., which operates Brookhaven National Laboratory under USAEC contract. Such an ultra-high level radiation facility, which would include two remote-operated "hot cells", would permit the development, fabrication, testing and evaluation of intense radiation sources of megacurie strength for use in food irradiation, sterilization and other potential applications of radiation in such fields as chemicals, petroleum and plastics.

EXPERIMENTAL FACILITY:- Contract has been awarded by the USAEC to Aerojet-General Nucleonics in amount of $1,357,779 to build an experimental facility for developing gas-cooled nuclear reactors. Various types of reactor cores will be tested in the facility.

CONSTRUCTION JOBS:- On bid of $1,817,874 Hoffman Construction Co., Portland, Ore., has received USAEC contract to do Phase II construction of the plutonium recycle test reactor and plutonium fabrication pilot plant at Hanford Plutonium Works, Richland, Wash. ..... Award to Lembke Construction Co., of $888,310 contract has been made by the USAEC's Albuquerque operations office for construction of engineering building at South Albuquerque Works, operated for the USAEC by ACF Industries, Inc.

NUCLEAR POWER PLANT CONTRACT SIGNED:- Final agreement has been made on terms of contract between Rural Cooperative Power Association, Elk River, Minn., and USAEC for operation by RCPA of nuclear power plant financed mainly by the Commission. Under the contract (signed the early part of this month) RCPA will provide the nuclear plant site; the conventional turbogenerator and related facilities; operate the entire plant as part of its electric power system; and purchase from the Commission the steam produced by the reactor. The reactor, using water as moderator and coolant, and a mixture of thorium and uranium oxides as fuel, will be supplied by Nuclear Products-Erco Division of ACF Industries, Inc. (Total estimated cost to the USAEC will be about $11,445,000. This is made up of ACF's work, under a cost-type contract with ceiling of $9,269,000 including fixed-fee, and operating costs of $2,176,000 which will be borne by the USAEC over the five year contract period.)

PEOPLE...in nuclear work...

Howard Schwartz, has been named assistant to the president of Nuclear Development Corp., of America, White Plains, N.Y. Mr. Schwartz is a mechanical engineer with broad experience in the nuclear field, and comes from the USAEC.

R. W. Cook, with the USAEC since 1947, and formerly deputy general manager, has joined American Machine & Foundry Co., as director of administration, government products group.

NEW PRODUCTS, PROCESSES, INSTRUMENTS...for nuclear lab & plant...

NEW PRODUCTS FROM MANUFACTURERS:- Gamma sensitive scintillation detector, Model DS5-1P, is specially designed for medical diagnostic applications of radioisotopes. Suggested uses are for thyroid or kidney function studies; cardiac output determinations; and three dimensional body scanning studies. --Nuclear-Chicago Corp., 223 W. Erie St., Chicago 10, Ill.

New automatic scintillation spectrometer, of an exclusive design, for use in the field of atomic instrumentation, providing automatic histogram-plotting of integral or differential spectra. Suggested applications are in medical isotope purity analysis; isotope identification and analysis in single and multiple tracer studies; activation analysis; and investigations of physical interactions, absorption and particle scattering. --Baird-Atomic, Inc., 33 University Rd., Cambridge 38, Mass.

New X-ray detector, Model 607-X, is said to operate accurately over the 100 KEV to 600 KEV energy level. It will detect and measure X-rays produced as secondary emission from magnetrons, kylstrons, high acceleration beam-type tubes, etc. Specially constructed internal shielding is used so that the unit can make accurate measurements in the presence of high intensity RF impulses or other types of electromagnetic, magnetic, and electrical fields. --Universal Transistor Products Corp., Westbury, L.I., New York.

Linear amplifier, Model LA-5, is patterned after Oak Ridge National Laboratory A-1-D design, and includes a pulse height selector which allows rejection of all pulses below a pre-selected value. An exclusive feature is the Microdial for pulse height selector control, allowing more accurate perception than conventional concentric scale types. --Technical Associates, 140 W. Providencia Ave., Burbank, Calif.

New grades of high-purity zirconium hydride, grade R for the nuclear industry, and grade C for general commercial applications, are now offered by this producer. Grade R, showing promise as a moderator in nuclear systems, is said to contain less than 0.01% hafnium. Grade C, for commercial applications, is used as a finely divided powder in the electronics, pyrotechnics, and related fields. --Metal Hydrides, Inc., Congress St., Beverly, Mass.

PRODUCT NEWS:- The mass production basis used by the USAEC for making heavy water at its Savannah River Plant is relatively inexpensive, the Commission recently pointed out. Its Savannah River plant (operated under contract by E. I. du Pont de Nemours Co.) produces heavy water through a combination of initial enrichment by hydrogen sulphide dual-temperature exchange; intermediate concentration by water distillation; and final concentration by electrolysis. Its selling price of $28/lb. covers operating expenses, plant overhead and depreciation, and a general USAEC overhead charge. During the last three years the USAEC has sold approximately 250 tons of heavy water to foreign markets, mostly West European and British Commonwealth nations. It expects to sell an additional 100 tons during 1958. Last year France bought 11 tons; Canada, 63.5 tons; Switzerland, 9 tons (a private concern, Reactor, Ltd., Wuerenlingen); Belgium, 500 lbs.; Australia, 11 tons; United Kingdom, 11 tons; Sweden, 28.5 tons (a private concern, Aktiebolaget Atomenergi); and Norway, 17.6 tons. Total sales for 1957 were somewhat more than 145 tons.

Recent shipment of fuel for a nuclear research reactor in West Berlin, consisting of enriched uranyl sulphate solution, was first commercial shipment of its kind made by the special metals division of Mallinckrodt Chemical Works, St. Louis, Mo., whose production facilities are in Hematite, Mo. Enriched to approximately 19.9% uranium-235, the fuel solution, which contained 1,800 grams of uranium-235, was valued at $30,000.

Plessey Nucleonics Ltd., Ilford (England) has designed and produced a new food contamination monitor to specifications of Ministry of Agriculture, Fisheries, and Food. It is a portable instrument, for the detection and measurement of radioactive contamination of liquid or solid foods that may be due to radioactive fallout. While design is primarily for radiological defense, the instrument has industrial and laboratory uses.

SERVICES:- Texas Nuclear Corporation, Austin 17, Texas, is now offering to industry generally the facilities of its laboratory for activation analysis, nuclear research, etc. Facilities which the laboratory offers include 2 mev Van de Graaff machine.

ATOMIC ENERGY PATENT DIGEST...

ISSUED July 8, 1958 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:- (1) Radioactive radiation indicator. G. E. B. Barstad, Lillestron, Norway, inventor. No. 2,842,674 assigned to Forsvarets Forskningsinstitutt, Akershus Festning, Oslo, Norway. (2) Radiation detector. Serge A. Scherbatskoy, inventor. No. 2,842,675 issued to inventor of record. (3) Shielding in irradiation well logging. Daniel Silverman, inventor. No. 2,842, 678 assigned to Pan American Petroleum Corp. (4) Radiation responsive apparatus. Clark Goodman, inventor. No. 2,842,695 assigned to Schlumberger Well Surveying Corp., Houston, Tex. (5) Particle accelerator. Marvin Chodorow, inventor. No. 2,842,705 assigned to Leland Stanford University, Stanford, Calif.

ISSUED July 8, 1958 to GOVERNMENTAL ORGANIZATIONS:- (1) De-entrainment column. Ara J. Mooradian, inventor. No. 2,842,224 assigned to USAEC. (2) Selective rejection of iron and aluminum in hydrometallurgical recovery of metals. J. O. Dasher, A. J. Beyer, inventors. No. 2,842,436; A. J. Beyer assignor to USAEC. (3) Polarograph. J. W. Heyd, P. E. Ohmart, inventors. No. 2,842,736 assigned to USAEC.

ISSUED July 15, 1958 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:- (1) Radioactive antibiotic. J. F. Snell, inventor. No. 2,843,526 assigned to Chas. Pfizer & Co., Inc., New York, N.Y. (2) Samarium compensator method for nuclear reactor fuel. Ira Bornstein, inventor. No. 2,843,539 assigned to North American Aviation, Inc. (3) Apparatus for continuous production of metallic beryllium. S. J. Morana, inventor. No. 2,843,544 assigned to The Beryllium Corp., Reading, Pa. (4) System for measuring X-radiation. A. M. Koblenz, inventor. No. 2,843,749 assigned to United States Steel Corp. (5) X-Ray spectrometer. J. Hillier, inventor. No. 2,843,750 assigned to Radio Corp. of America. (6) Neutron-fluorescence well logging method and apparatus. Clark Goodman, inventor. No. 2,843,752 assigned to Schlumberger Well Surveying Corp., Houston, Texas. (7) Automatic sample changer for radioactive samples. R. L. Meeder, inventor. No. 2,843,753 assigned to Nuclear-Chicago Corp. (8) Gamma-ray projectors. R. B. Costello, inventor. No. 2,843,754 assigned to The M. W. Kellogg Co., Jersey City, N.J. (9) Radioactive inspection of housings. W. P. Staker, R. B. Jacobs, A. C. Borg, inventors. No. 2,843,755 assigned to Standard Oil Co., Chicago, Ill.

ISSUED July 15, 1958 to GOVERNMENTAL ORGANIZATIONS:- (1) Method of recovering uranium mineral values. H. W. Long, inventor. No. 2,843,450 assigned to USAEC. (2) Processes of recovering uranium from a calutron. D. O. Baird, inventor. No. 2,843,451 assigned to USAEC. (3) Precipitation of protactinium. R. L. Moore, inventor. No. 2,843,452 assigned to USAEC. (4) Separation of plutonyl ions. R. E. Connick, W. H. McVey, inventors. No. 2,843,453 assigned to USAEC. (5) High temperature brazing alloy for joining iron, chromium, aluminum materials and ferritic stainless steel. R. R. Cost, inventor. No. 2,843,478 assigned to USAEC. (6) Neutronic reactor. R. F. Christy, inventor. No. 2,843,543 assigned to USAEC. (7) Coated alloys. C. G. Harman, L. S. O'Bannon, inventors. No. 2,843,500 assigned to USAEC. (8) Transistor high voltage power supply. G. E. Driver, inventor. No. 2,843,815 assigned to USAEC.

MEETINGS, COURSES, CONFERENCES...

CONFERENCES:- Number of scientific papers scheduled for the 2nd Geneva Conference (p. 1, this LETTER) reflects intense interest of scientific community, while the 250 exhibitors from 13 countries who will have displays at the related commercial exhibition at the Palais des Expositions in Geneva will make this a record display of nuclear products. (Largest displays will be by U.S. and U.K.; France follows; and in order of area of space occupied will be Germany, Switzerland, Italy, Belgium, Holland, Lichtenstein, Argentina, Hungary, Austria and Sweden. For the U.S., 50 industrial organizations plus the USAEC will have displays. Devices being exhibited by the USAEC include apparatus being used in the U.S. effort to control a thermonuclear reaction.)

Sincerely,

The Staff,
ATOMIC ENERGY NEWSLETTER

July 22, 1958